

REMARKS

Applicant respectfully requests reconsideration of this application in view of the foregoing amendments and the following remarks.

Claim Status

Claims 23-34 are pending in this application and have been rejected. Claims 23 and 34 are herein amended to correct grammatical errors. New claim 35 is herein added. No new matter has been added by these amendments.

Rejections Under 35 U.S.C. § 103

Claims 23-34 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,969,567 (Kahl) in view of U.S. Patent No. 6,067,316 (Amrany).

With regard to claim 23, Applicant respectfully submits that Kahl, when taken alone or in combination with Amrany fails to disclose or suggest at least a transmission path comprising “a digital frequency splitter, which joins together the second voice signal, which is in digital form, and the second data signal, which is in digital form, to form a digital transmission signal” as recited therein.

In the rejection of claim 23, the Examiner indicated that Kahl does not disclose “a digital frequency splitter in the transmission path as set forth in the application claim”. To cure this deficiency in Kahl, the Examiner indicated that Amrany discloses an adder 124 that “performs equivalent function of the claimed digital frequency splitter”. Applicant respectfully disagrees.

The adder 124 of Amrany is not a digital frequency splitter. Instead, the adder 124 is a device for adding two or more signals. For example, the adder 124 adds a PCM signal and an xDSL signal. See e.g., Fig. 4 and col. 6, lines 53-55 of Amrany. Thus, as

known to a person having ordinary skill in the art, the adder 124 is just that, it is a device for adding, just like an adder 47 shown in Fig. 3 of Applicant's disclosure. In contrast, a digital frequency splitter 46 is used to filter signals; it does not add signals. See e.g., Fig. 3 and page 12, lines 12-21 of Applicant's disclosure.

Further, the adder 124 does not perform the function of the claimed digital frequency splitter, which "joins together the second voice signal, which is in digital form, and the second data signal, which is in digital form, to form a digital transmission signal". The adder 124 merely adds the PCM and xDSL signals and passes the added signal through an equalization filter 128. See e.g., Fig. 4 and col. 6, lines 53-57 of Amrany. As can be gleaned, the adder 124 and the claimed digital frequency splitter have entirely different functions. Thus, in no way does the adder 124 correspond to the claimed digital frequency splitter.

Still referring to the rejection of claim 23, neither Kahl nor Amrany discloses or suggests "a digital-to-analog converter being preceded by the digital frequency splitter" as recited therein. Instead, Amrany discloses a digital-to-analog converter 126 preceded by the adder 124. See e.g., Fig. 4 of Amrany. As previously discussed, the adder 124 is not a digital frequency splitter.

Moreover, one of ordinary skill in the art would not be motivated to combine Amrany and Kahl for the reasons indicated by the Examiner because they not disclose or suggest the digital-to-analog converter preceded by the digital frequency splitter in the transmission path and the balance filter between the transmission path after the output of the digital-to-analog converter and the subtraction input of the subtraction element of the

reception path, wherein the balance filter is used for echo suppression and an impedance matching loop. See e.g., page 5, lines 21-28 of Applicant's disclosure.

Accordingly, Applicant believes that the embodiment of the present invention as recited in claim 23 is patentable over the cited art of record because neither Kahl nor Amrany either alone or in combination discloses or suggests the digital frequency splitter and digital-to-analog converter as recited therein.

Claim 34 was rejected on the same grounds as claim 23.

With regard to claim 34, claim 34 is believed to be allowable for at least the reasons discussed above for claim 23.

In addition, claim 34 is believed to be allowable because neither Kahl nor Amrany discloses or suggests "a digital frequency splitter comprising a digital low-pass filter for filtering the second voice signal and a digital high-pass filter for filtering the second data signal" as recited therein.

As previously discussed, Amrany discloses an adder 124. See e.g., Fig. 4 of Amrany. The adder 124 is not a digital frequency splitter, nor does the adder 124 comprise a digital low-pass filter 43 and a digital high-pass filter 45 as shown in Fig. 3 of Applicant's disclosure. For example, the adder 124 does not include a low-pass filter that passes low frequencies well, while attenuating frequencies above a cut-off frequency and a high-pass filter that is used to perform the opposite function. In addition, there is no disclosure in Amrany of separating two signal paths in the transmission direction by means of two digital filters (e.g., the claimed digital low-pass and high-pass filters). Further, the adder 124 does not filter a voice signal and a data signal like the claimed digital frequency splitter.

Moreover, neither Kahl nor Amrany discloses or suggests using the combination of the claimed digital frequency splitter and balance filter for echo suppression and an impedance matching loop, wherein an echo cancellation path for the data and an impedance matching loop for a voice band are interrupted and the mutual interaction is reduced to a minimum. See e.g., page 5, lines 21-28 and page 13, lines 4-12 of Applicant's disclosure.

Accordingly, Applicants also believe that the invention as recited in claim 34 is patentable over the cited art of record because neither Kahl taken alone or in combination with Amrany discloses or suggests the digital frequency splitter as recited therein.

New Claim 35

With regard to claim 35, claim 35 is believed to be allowable for at least the reasons discussed above for claims 23 and 34.

In addition, claim 35 is believed to be allowable because neither Kahl nor Amrany discloses or suggests "a digital POTS splitter comprising a digital low-pass filter for filtering the second voice signal and a digital high-pass filter for filtering the second data signal, wherein the digital POTS splitter ... can be set and varied by programming the filter coefficients of the digital low-pass filter and the digital high-pass filter" as recited therein.

Accordingly, Applicants also believe that the invention as recited in claim 35 is patentable over the cited art of record because neither Kahl taken alone or in combination with Amrany discloses or suggests the digital POTS splitter as recited therein.


Dependent Claims

Applicant has not independently addressed the rejections of the dependent claims because Applicant submits that, in view of the amendments to the claims presented herein and, for at least similar reasons as why the independent claims from which the dependent claims depend are believed allowable as discussed, supra, the dependent claims are also allowable. Applicant however, reserves the right to address any individual rejections of the dependent claims should such be necessary or appropriate.

CONCLUSION

Accordingly, Applicant submits that the claims as herein presented are allowable over the prior art of record, taken alone or in combination, and that the respective rejections be withdrawn. Applicant further submits that the application is hereby placed in condition for allowance which action is earnestly solicited.

Respectfully submitted,

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